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## (2) INFORMATION FOR SEQ ID NO: 1:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6152 base pairs
- (B) TYPE: nucleotide
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

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ATTATTTAT TTTTATTGTT TTATTTCTTT TTTTCTTTA AATGTATAT TTATAAATAT      60
TTAAAAAGT TAGAAATGA CAAATAGTAA TTACAAATCA AATAATAAAA CATATAATGA      120
AAATAATAAT GAAGAAATAA CTACCATATT TAATAGAACA AATATGAATC CGATAAAAAA      180
ATGTCATATC AGAGAAAAAA TAAATAAGTA CTTTTTTTTC ATCAAAATTT TGACATGCAC      240
CATTTTAATA TGGCCTGTAC AATATGATAA TAACGTAAGA TAAAAACTA AATAATAAAT      300
ATAAATAAAA AAAAAAAAAA AAAAAAAAAA ATCAACTATA TAGTATGTAT AATATATATA      360
TATATATATA TATATATATA TATATATATA TATTTATTTT TATTTATTIA TTAATTTTTT      420
TTTTTTTATA TTATCTTTTT AGTCTGATAT AAACAAGAGT TCGAAAAAAA ATACGTATGT      480
AGATAAGAAA TTCAATAAAC TATTTAACAG AAGTTIAGGA GAATCTCAAG TAAATCGTCA      540
ATTACCTAGT GAAGAACTAA AGGAAAAAAT TCTTGACTTA TTACAAGAAG GAAATAGATT      600
AACTCAAAGT GTAGATGATA ATAAAAATTT AGAAGAAGCC GAAGATATAA AGGAAATAT      660
CTTATIAAGT AATATAGAAG AACCAAAAGA AATATTIATT GACAATTTAT TAAATAATAT      720
TCGACAAAAT TCAGAAAAAC AAGAAAGTGT ATCAGAAAAT GTACAAGTCA GTGATCAACT      780
TTTAAATGAA TTATTAAATA GTGTAGATGT TAATGGAGAA GTAAAAGAAA ATATTTTCCA      840
CGAAAGTCAA GTTAATGACC ATATTTTAA TAGTTIAGTA AAAAGTCTTC AACAAGAACA      900
ACAACACAAT GTTGAAGAAA AAGTTGAAGA AAGTGTAGAA GAAATGACC ACAAAGTGT      960
AGAAGAAAAT GTACAAGAAA ATGTAGAAGA AATGACCAC CGAAGTGTAG CCTCAAGTGT      1020
TGAAGAAAGT ATAGCTTCAA GTGTGATGA AAGTATAGAT TCAAGTATTG AAGAAAATGT      1080
AGCTCCAAGT GTTGAAGAAA TCGTAGCTCC AAGTCTTCTA GAAAGTCTCG CTCCAAGTGT      1140

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FIGURE 1/A

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TGAAGAAAGT GTAGAAGAAA ATGTTGAAGA AAGTGTAGCT GAAAATGTTG AAGAAAGTGT	1200
AGCTGAAAAT GTTGAAGAAA GTGTAGCTGA AAATGTTGAA GAAAGTGTAG CTGAAAATGT	1260
TGAAGAAATC GTAGCTCCAA CTGTTGAAGA AATCGTAGCT CCAACTGTTG AAGAAATTGT	1320
AGCTCCAAGT GTGTAGAAA GTGTGGCTCC AAGTGTGAA GAAAGTGTAG AAGAAAATGT	1380
TGAAGAAAGT GTAGCTGAAA ATGTTGAAGA AAGTGTAGCT GAAAATGTTG AAGAAAGTGT	1440
AGCTGAAAAT GTTGAAGAAA GTGTAGCTGA AAATGTTGAA GAAAGTGTAG CTGAAAATGT	1500
TGAAGAAATC GTAGCTCCAA CTGTTGAAGA AATCGTAGCT CCAACTGTTG AAGAAATTGT	1560
AGCTCCAAGT GTGTAGAAA GTGTGGCTCC AAGTGTGAA GAAAGTGTAG AAGAAAATGT	1620
TGAAGAAAGT GTAGCTGAAA ATGTTGAAGA AAGTGTAGCT GAAAATGTTG AAGAAAGTGT	1680
AGCTGAAAAT GTTGAAGAAA GTGTAGCTGA AAATGTTGAA GAAAGTGTAG CTGAAAATGT	1740
TGAAGAAAGT GTAGCTGAAA ATGTTGAAGA AAGTGTAGCT GAAAATGTTG AAGAAATGCT	1800
AGCTCCAAGT GTTGAAGAAA TCGTAGCTCC AAGTGTGAA GAAATGTAG CTCCAAGTGT	1860
TGTAGAAAGT GTGGCTCCAA GTGTTGAAGA AAGTGTAGAA GAAAATGTTG AAGAAAGTGT	1920
AGCTGAAAAT GTTGAAGAAA GTGTAGCTGA AAATGTTGAA GAAAGTGTAG CTGAAAATGT	1980
TGAAGAAAGT GTAGCTGAAA ATGTTGAAGA AATCGTAGCT CCAACTGTTG AAGAAATGCT	2040
AGCTCCAAGT GTTGAAGAAA TTGTAGCTCC AAGTGTGTA GAAAGTGTGG CTCCAAGTGT	2100
TGAAGAAAGT GTAGAAGAAA ATGTTGAAGA AAGTGTAGCT GAAAATGTTG AAGAAAGTGT	2160
AGCTGAAAAT GTTGAAGAAA GTGTAGCTGA AAATGTTGAA GAAATCGTAG CTCCAAGTGT	2220
TGAAGAAATC GTAGCTCCAA CTGTTGAAGA AATGTAGCT CCAAGTGTG TAGAAAGTGT	2280
CGCTCCAAGT GTTGAAGAAA GTGTAGAAGA AAATGTTGAA GAAAGTGTAG CTGAAAATGT	2340
TGAAGAAAGT GTAGCTGAAA ATGTTGAAGA AAGTGTAGCT GAAAATGTTG AAGAAAGTGT	2400
AGCTGAAAAT GTTGAAGAAA TCGTAGCTCC AAGTGTGAA GAAATCGTAG CTCCAAGTGT	2460
TGAAGAAATT GTAGCTCCAA GTGTTGTAGA AAGTGTGGCT CCAACTGTTG AAGAAAGTGT	2520
AGAAGAAAAT GTTGAAGAAA GTGTAGCTGA AAATGTTGAA GAAAGTGTAG CTGAAAATGT	2580
TGAAGAAAGT GTAGCTGAAA ATGTTGAAGA AAGTGTAGCT CCAACTGTTG AAGAAATTGT	2640
AGCTCCAAGT GTTGAAGAAA GTGTAGCTCC AAGTGTGAA GAAAGTGTG CTGAAAACCT	2700
TCCAACAAAT TTATCAGACA ATGTTTTAAG TAATTTATTG GGTGCTATCC AACTCAGGA	2760

FIGURE 1/B

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AATAAAGGAC ACTATATTAA ATGAGATAGA AGAAGTAAAA GAAAATGTAG TCACCACAAT	2820
ACTAGAAAAC GTAGAAGAAA CTACAGCTGA AAGTGTAAGT ACTTTTAGTA ACATATTAGA	2880
GGAGATACAA GAAAATACTA TTACTAATGA TACTATAGAG GAAAAATTAG AAGAAGTCCA	2940
CGAAAATGTA TTAAGTCCCG CTTIAGAAAA TACCCAAAGT GAAGAGGAAA AGAAAGAAGT	3000
AATAGATGTA ATTGAAGAAG TAAAAGAAGA GGTGGCTACC ACTTTAATAG AAAGTGTGGA	3060
ACAGGCAGAA GAAAAGACCG CAAATACAAT TACGGAAATA TTTGAAAATT TAGAAGAAAA	3120
TGCAGTAGAA AGTAATGAAA ATGTTGCAGA GAATTAGAG AAATTAAAGG AAAGTGTATT	3180
TAATACTGTA TTAGATAAAG TAGAGGAAAC AGTAGAAAT AGCGGAGAAA GTTLAGAAAA	3240
CAATGAAATG GATAAAGCAT TTTTACTGA AATATTGAT AATGTAAAAG CAATACAAGA	3300
AAATTIATTA ACAGGTATGT TTCCAAGTAT AGAAACCAAT ATAGTAATGC AATCAGAAGA	3360
AAAGGTTGAT TTCAATGAAA ATGTGTTAG TTGGATTITA GATAATATAG AAAATATGAA	3420
AGAAGGTTTA TTAATAAAT TAGAAAATAT TTCAAGTACT GAAGGTGTTT AAGAAAGTGT	3480
AACTGAACAT GTAGAAGAAA ATGTATATGT CGATGTTGAT GTTCTGCTA TGAAGATCA	3540
ATTTTAGGA ATATTAAATG AGGCAGGAGG GTTGAAAGAA ATGTTTITA ATTTGGAAGA	3600
TGTATTTAAA AGTCAAAGTC ATCTAATTAC TGTAGAAGAA ATTAACGATG AAGCGGTTCA	3660
AAAAGAGGTA GAAAAGAAA CTGTTAGTAT TATTGAAGAA ATGGAAGAAA ATATTGTAGA	3720
TGTATTAGAG GAAGAAAAAC AAGATTTAAC AGACAAGATC ATAGATGCAG TAGAAGATC	3780
CATAGAAATA TCTTCAGATT CTAAAGAAGA AACTGAATGT ATTAAAGATA AAGAAAAAGA	3840
TGTTTCAGTA GTTGTIGAAG AAGTTCAAGA CAATGATATC GATGAAAGTC TTCAGAAAGT	3900
TTIAGAATTC AAAAATATGG AAGAGGAGTT AATGAACCAT GCTGTTGAAA TAAATGACAT	3960
TACTAGCAA GTTATTGAAG AAAGTCAAGA GTTAAATGAA GTAGAAGCAG ATTTAATAAA	4020
AGATATCGAA AAATTAAAG AATTAGAAAA AGCATTATCA GAAGATTCTA AAGAAATAAT	4080
AGATGCAAAA GATGATACAT TAGAAAAAGT TATTCAAGAG GAACATGATA TAAGGAGGAC	4140
GTTCGATGAA GTTGTAGAA TAAAAGATGT CGAAGAAGAC AAGATCGAAA AAGTATCTGA	4200
TTTAAAGAT CTTGAAGAAG ATATATTTAA AGAAGTAAAA GAAATCAAAG AAGTTGAAAG	4260
TGAAATTTTA CAAGATTATA AAGAATTAAA AACTATTGAA ACAGATATT TACAAGAGAA	4320
AAAAGAAATA GAAAAGATC ATTTGAAAA ATTGGAAGAA GAAGCTGAAG AAATAAAGA	4380

FIGURE 1/C.

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TCTTGAAGCA GATATATTAA AAGAAGTATC TTCATTAGAA GTTGAAGAAG AAAAAAATT	4440
AGAAGAAGTA CACGAATTAA AAGAAGAGGT AGAACATATA ATAAGTGGTG ATGCCCATAT	4500
AAAAGGTTTG GAAGAAGATG ATTTAGAAGA AGTAGATGAT TTAAAAGCAA GTATATTAGA	4560
CATGTTAAAG GGAGATATGG AATTAGCGGA TATCGATAAG GAAAGTTTAC AAGATGTAAC	4620
AACAAAACIT GGAGAAAGAG TTGAATCCTT AAAAGATGTT TTATCTAGTG CATTAGCCAT	4680
GGATGAAGAA CAAATGAAAA CAAGAAAAAA AGCTCAAAGA CGTAAAGTTGG AAGAAGTATT	4740
ATTAAAAGAA GAGGTTAAAG AAGAACCAAA GAAAAAATA ACAAAAAAGA AAGTAAAGTT	4800
TGATATTAAG GATAAGGAAC CAAAAGATGA AATAGTAGAA GTTGAATGA AAGATGAAGA	4860
TATAGAAGAA CATGTAGAAG AAGATATAGA AGAAGATATA GAAGAAGATA AAGTTGAAGA	4920
TATAGATGAA GATATAGATC AAGATATAGC TGAAGACAAA GATGAAGTTA TAGATTAAAT	4980
AGTCCAAAAA GAGAAACCCA TTGAAAAGGT TAAAGCGAAA AAGAAAAAAT TAGAAAAAAA	5040
AGTTGAAGAA GGTGTTAGTG GTCTTAAAAA ACACCTAGAC CAAGTAATGA AATATGTTCA	5100
AAAAATTGAT AAAGAAGTTG ATAAAGAAGT ATCTAAAGCT TTACAATCAA AAAATGATGT	5160
TACTAATGTT TTAAAACAAA ATCAAGATTT TTTTAGTAAA GTTAAAAACT TCGTAAAAAA	5220
ATATAAAGTA TTGCTGCAC CATTCAATATC TCCCGTTGCA GCATTTCGAT CATATGTAAT	5280
TGGCTTCTTT ACATTTTCTT TATTTTCATC ATGTGTAAAC ATAGCTTCTT CAAGTTACTT	5340
ATATCAAAA GTTGACAAA CTATAAATAA AAATAAGGAG AGACCGTTTT ATTCATTGCT	5400
ATTGATATC TTAAAGAATT TAAAACATTA TTACAAGAA ATGAAAGAAA AATTIAGTAA	5460
AGAAAAAAT AATAATGTAA TAGAAGTAAC AAACAAGCT CAGAAAAAAG GTAATGTACA	5520
GGTAAGAAAT AAAACCGAGA AAACAATAA AGTTGATAAA AATAATAAAG TACCGAAAAA	5580
AAGAACAACG CAAAAATCAA AATAAAAAAT TGCAGAAGAC TGAAATGATT GGAGCGAACA	5640
ATAAAATTAA TCGATAAAAA ATATAAAAAAT GTATATATTA TCTAAATATA TATAAATAAA	5700
TAAATAAATA CATACATATA TATATATATA TATATGTATC TTTTACAAA ATTTTAAAAAT	5760
TTTAAATTT ATATATATTA ATATTIATAT TTTCCATAT ATAATTTTAT TTTCAATATT	5820
TTATTTTAA TTATAAATGT TTTTACAGA GTTATGTTT TTAAATTAAT ATATAGATTT	5880
CTGTAAGAAA CTGTATATTA TTCATACGAT ATATGTAATA TTAATTATTI GTGTTTTATT	5940
AAAATTTATA TTATATAATA TATATATATA TATATATGTA TATATATTAG AAGATAAAAA	6000

FIGURE 1/D

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TTIAGCTTAT TTTGCTTGTT ATGCAAATAA CCTTTTTTTT TTTTTTTTTT TTTTTTTTC	6060
ATATAAACGA TGTTTAATTT TTAATTTTAA ATATTTTATA TAAATATTT TTCCTAAAAA	6120
AAAAAAAAAT TAAAAAAAAAC TTATATTTCG AA	6152

FIGURE 1/E

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## (2) INFORMATION FOR SEQ ID NO: 2:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5361 base pairs  
 (B) TYPE: nucleotide  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: cDNA

## (ix) FEATURE:

- (A) NAME/KEY: CDS  
 (B) LOCATION: 1..5361

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

ATG	ACA	AAT	AGT	AAT	TAC	AAA	TCA	AAT	AAT	AAA	ACA	TAT	AAT	GAA	AAT	48
Met	Thr	Asn	Ser	Asn	Tyr	Lys	Ser	Asn	Asn	Lys	Thr	Tyr	Asn	Glu	Asn	
1				5					10					15		
AAT	AAT	GAA	CAA	ATA	ACT	ACC	ATA	TIT	AAT	ACA	ACA	AAT	ATG	AAT	CCC	96
Asn	Asn	Glu	Gln	Ile	Thr	Thr	Ile	Phe	Asn	Arg	Thr	Asn	Met	Asn	Pro	
			20					25					30			
ATA	AAA	AAA	TGT	CAT	ATG	AGA	GAA	AAA	ATA	AAT	AAC	TAC	TIT	TIT	TTC	144
Ile	Lys	Lys	Cys	His	Met	Arg	Glu	Lys	Ile	Asn	Lys	Tyr	Phe	Phe	Leu	
		35					40					45				
ATC	AAA	ATT	TTC	ACA	TCC	ACC	ATT	TTA	ATA	TGG	GCT	GTA	GAA	TAT	GAT	192
Ile	Lys	Ile	Leu	Thr	Cys	Thr	Ile	Leu	Ile	Trp	Ala	Val	Gln	Tyr	Asp	
		50				55				60						
AAT	AAC	TCT	GAT	ATA	AAC	AAG	AGT	TGG	AAA	AAA	AAT	ACC	TAT	GTA	GAT	240
Asn	Asn	Ser	Asp	Ile	Asn	Lys	Ser	Trp	Lys	Lys	Asn	Thr	Tyr	Val	Asp	
65					70				75					80		
AAG	AAA	TTC	AAT	AAA	CTA	TIT	AAC	AGA	AGT	TTA	GGA	GAA	TCT	CAA	GTA	288
Lys	Lys	Leu	Asn	Lys	Leu	Phe	Asn	Arg	Ser	Leu	Gly	Glu	Ser	Gln	Val	
			85					90						95		
AAT	GCT	GAA	TTA	GCT	AGT	GAA	GAA	CTA	AAG	GAA	AAA	ATT	CTT	CAC	TTA	336
Asn	Gly	Glu	Leu	Ala	Ser	Glu	Glu	Val	Lys	Glu	Lys	Ile	Leu	Asp	Leu	
			100					105					110			
TTA	GAA	GAA	GGA	AAT	AGA	TTA	ACT	GAA	AGT	GTA	GAT	GAT	AAT	AAA	AAT	384
Leu	Glu	Glu	Gly	Asn	Thr	Leu	Thr	Glu	Ser	Val	Asp	Asp	Asn	Lys	Asn	
		115					120					125				

FIGURE 2/A

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TIA GAA GAA GCC GAA GAT ATA AAG GAA AAT ATC TTA TTA AGT AAT ATA Leu Glu Glu Ala Glu Asp Ile Lys Glu Asn Ile Leu Leu Ser Asn Ile 130 135 140	432
GAA GAA CCA AAA GAA AAT ATT ATT GAC AAT TTA TTA AAT AAT ATT GGA Glu Glu Pro Lys Glu Asn Ile Ile Asp Asn Leu Leu Asn Asn Ile Gly 145 150 155 160	480
CAA AAT TCA GAA AAA CAA GAA AGT GTA TCA GAA AAT GTA CAA GTC AGT Gln Asn Ser Glu Lys Gln Glu Ser Val Ser Glu Asn Val Gln Val Ser 165 170 175	528
GAT GAA CTT TTT AAT GAA TTA TTA AAT AGT GTA GAT GTT AAT GGA CAA Asp Glu Leu Phe Asn Glu Leu Leu Asn Ser Val Asp Val Asn Gly Glu 180 185 190	576
GTA AAA CAA AAT ATT TTC GAG GAA AGT CAA GTT AAT CAC GAT ATT TTT Val Lys Glu Asn Ile Leu Glu Glu Ser Gln Val Asn Asp Asp Ile Phe 195 200 205	624
AAT AGT TTA GTA AAA AGT GTT CAA CAA GAA CAA CAA CAC AAT GTT GAA Asn Ser Leu Val Lys Ser Val Gln Gln Glu Gln Gln His Asn Val Glu 210 215 220	672
GAA AAA GTT CAA GAA AGT GTA GAA GAA AAT GAC GAA GAA AGT GTA GAA Glu Lys Val Glu Glu Ser Val Glu Glu Asn Asp Glu Glu Ser Val Glu 225 230 235 240	720
GAA AAT GTA CAA GAA AAT GTA GAA GAA AAT GAC GAC GCA AGT GTA GCC Glu Asn Val Glu Glu Asn Val Glu Glu Asn Asp Asp Gly Ser Val Ala 245 250 255	768
TCA AGT GTT GAA GAA AGT ATA GCT TCA AGT GTT GAT CAA AGT ATA GAT Ser Ser Val Glu Glu Ser Ile Ala Ser Ser Val Asp Glu Ser Ile Asp 260 265 270	816
TCA AGT ATT CAA GAA AAT GTA CCT CCA ACT GTT GAA GAA ATC GTA GCT Ser Ser Ile Glu Glu Asn Val Ala Pro Thr Val Glu Glu Ile Val Ala 275 280 285	864
CCA AGT GTT GTA GAA AGT GTC GCT CCA AGT GTT GAA GAA AGT GTA GAA Pro Ser Val Val Glu Ser Val Ala Pro Ser Val Glu Glu Ser Val Glu 290 295 300	912
GAA AAT GTT CAA GAA AGT GTA GCT CAA AAT GTT GAA GAA AGT GTA GCT Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala 305 310 315 320	960
GAA AAT GTT CAA GAA AGT GTA CCT CAA AAT GTT GAA GAA AGT GTA GCT Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala 325 330 335	1008

FIGURE 2/B

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GAA AAT GTT GAA GAA ATC GTA GCT CCA ACT GTT GAA GAA ATC GTA GCT Glu Asn Val Glu Glu Ile Val Ala Pro Thr Val Glu Glu Ile Val Ala 340 345 350	1056
CCA ACT GTT GAA GAA ATT GTA GCT CCA AGT GTT GTA GAA AGT GTC GCT Pro Thr Val Glu Glu Ile Val Ala Pro Ser Val Val Glu Ser Val Ala 355 360 365	1104
CCA ACT GTT GAA GAA AGT GTA GAA GAA AAT GTT GAA GAA AGT GTA GCT Pro Ser Val Glu Glu Ser Val Glu Glu Asn Val Glu Glu Ser Val Ala 370 375 380	1152
GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA GAA AGT GTA GCT Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala 385 390 395 400	1200
GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA GAA AGT GTA GCT Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala 405 410 415	1248
GAA AAT GTT GAA GAA ATC GTA GCT CCA ACT GTT GAA GAA ATC GTA GCT Glu Asn Val Glu Glu Ile Val Ala Pro Thr Val Glu Glu Ile Val Ala 420 425 430	1296
CCA ACT GTT GAA GAA ATT GTA GCT CCA AGT GTT GTA GAA AGT GTC GCT Pro Thr Val Glu Glu Ile Val Ala Pro Ser Val Val Glu Ser Val Ala 435 440 445	1344
CCA AGT GTT GAA GAA AGT GTA GAA GAA AAT GTT GAA GAA AGT GTA GCT Pro Ser Val Glu Glu Ser Val Glu Glu Asn Val Glu Glu Ser Val Ala 450 455 460	1392
GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA GAA AGT GTA GCT Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala 465 470 475 480	1440
GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA GAA AGT GTA GCT Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala 485 490 495	1488
GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA GAA AGT GTA GCT Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala 500 505 510	1536
GAA AAT GTT GAA GAA ATC GTA GCT CCA ACT GTT GAA GAA ATC GTA GCT Glu Asn Val Glu Glu Ile Val Ala Pro Thr Val Glu Glu Ile Val Ala 515 520 525	1584
CCA ACT GTT GAA GAA ATT GTA GCT CCA AGT GTT GTA GAA AGT GTC GCT Pro Thr Val Glu Glu Ile Val Ala Pro Ser Val Val Glu Ser Val Ala 530 535 540	1632

FIGURE 2/C



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CCA AGT GTT GAA GAA AGT GTA GAA GAA AAT GTT GAA GAA AGT GTA GCT Pro Ser Val Glu Glu Ser Val Glu Glu Asn Val Glu Glu Ser Val Ala 545 550 555 560	1680
GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA GAA AGT GTA GCT Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala 565 570 575	1728
GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA GAA ATC GTA GCT Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu Glu Ile Val Ala 580 585 590	1776
CCA ACT GTT GAA GAA ATC GTA GCT CCA ACT GTT GAA GAA ATT GTA GCT Pro Thr Val Glu Glu Ile Val Ala Pro Thr Val Glu Glu Ile Val Ala 595 600 605	1824
CCA AGT GTT GTA GAA AGT GTG GCT CCA AGT GTT GAA GAA AGT GTA GAA Pro Ser Val Val Glu Ser Val Ala Pro Ser Val Glu Glu Ser Val Glu 610 615 620	1872
GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA GAA AGT GTA GCT Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala 625 630 635 640	1920
GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA GAA ATC GTA GCT Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu Glu Ile Val Ala 645 650 655	1968
CCA ACT GTT GAA GAA ATC GTA GCT CCA ACT GTT GAA GAA ATT GTA GCT Pro Thr Val Glu Glu Ile Val Ala Pro Thr Val Glu Glu Ile Val Ala 660 665 670	2016
CCA AGT GTT GTA GAA AGT GTG GCT CCA AGT GTT GAA GAA AGT GTA GAA Pro Ser Val Val Glu Ser Val Ala Pro Ser Val Glu Glu Ser Val Glu 675 680 685	2064
GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA GAA AGT GTA GCT Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala 690 695 700	2112
GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA GAA AGT GTA GCT Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala 705 710 715 720	2160
GAA AAT GTT GAA GAA ATC GTA GCT CCA ACT GTT GAA GAA ATC GTA GCT Glu Asn Val Glu Glu Ile Val Ala Pro Thr Val Glu Glu Ile Val Ala 725 730 735	2208
CCA ACT GTT GAA GAA ATT GTA GCT CCA ACT GTT GTA GAA AGT GTG GCT Pro Thr Val Glu Glu Ile Val Ala Pro Ser Val Val Glu Ser Val Ala 740 745 750	2256

FIGURE 2/D.

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CCA	AGT	GTT	GAA	GAA	AGT	GTA	GAA	GAA	AAT	GTT	GAA	GAA	AGT	GTA	GCT	2304
Pro	Ser	Val	Glu	Glu	Ser	Val	Glu	Glu	Asn	Val	Glu	Glu	Ser	Val	Ala	
		755					760						765			
GAA	AAT	GTT	GAA	GAA	AGT	GTA	GCT	GAA	AAT	GTT	GAA	GAA	AGT	GTA	GCT	2352
Glu	Asn	Val	Glu	Glu	Ser	Val	Ala	Glu	Asn	Val	Glu	Glu	Ser	Val	Ala	
	770					775					780					
GAA	AAT	GTT	GAA	GAA	AGT	GTA	GCT	CCA	ACT	GTT	GAA	GAA	ATT	GTA	GCT	2400
Glu	Asn	Val	Glu	Glu	Ser	Val	Ala	Pro	Thr	Val	Glu	Glu	Ile	Val	Ala	
	785				790					795					800	
CCA	AGT	GTT	GAA	GAA	AGT	GTA	GCT	CCA	AGT	GTT	GAA	GAA	AGT	GTT	GCT	2448
Pro	Ser	Val	Glu	Glu	Ser	Val	Ala	Pro	Ser	Val	Glu	Glu	Ser	Val	Ala	
				805					810					815		
GAA	AAC	GTT	GCA	ACA	AAT	TTA	TCA	GAC	AAT	GTT	TTA	AGT	AAT	TTA	TTA	2496
Glu	Asn	Val	Ala	Thr	Asn	Leu	Ser	Asp	Asn	Leu	Leu	Ser	Asn	Leu	Leu	
			820					825					830			
GCT	GCT	ATC	GAA	ACT	GAG	GAA	ATA	AAG	GAC	AGT	ATA	TTA	AAT	GAG	ATA	2544
Gly	Gly	Ile	Glu	Thr	Glu	Glu	Ile	Lys	Asp	Ser	Ile	Leu	Asn	Glu	Ile	
		835					840					845				
GAA	GAA	GTA	AAA	GAA	AAT	GTA	GTC	ACC	ACA	ATA	GTA	GAA	AAC	GTA	GAA	2592
Glu	Glu	Val	Lys	Glu	Asn	Val	Val	Thr	Thr	Ile	Leu	Glu	Asn	Val	Glu	
		850				855					860					
GAA	ACT	ACA	GCT	GAA	AGT	GTA	ACT	ACT	TTT	AGT	AAC	ATA	TTA	CAG	GAC	2640
Glu	Thr	Thr	Ala	Glu	Ser	Val	Thr	Thr	Phe	Ser	Asn	Ile	Leu	Glu	Glu	
	865				870					875					880	
ATA	GAA	GAA	AAT	ACT	ATT	ACT	AAT	GAT	ACT	ATA	GAC	GAA	AAA	TTA	GAA	2688
Ile	Gln	Glu	Asn	Thr	Ile	Thr	Asn	Asp	Thr	Ile	Glu	Glu	Lys	Leu	Glu	
				885					890					895		
GAA	CTC	CAC	GAA	AAT	GTA	TTA	AGT	GCC	GCT	TTA	GAA	AAT	ACC	CAA	AGT	2736
Glu	Leu	His	Glu	Asn	Val	Leu	Ser	Ala	Ala	Leu	Glu	Asn	Thr	Gln	Ser	
			900					905					910			
GAA	GAG	GAA	AAG	AAA	GAA	GTA	ATA	GAT	GTA	ATT	GAA	GAA	GTA	AAA	CAA	2784
Glu	Glu	Glu	Lys	Lys	Glu	Val	Ile	Asp	Val	Ile	Glu	Glu	Val	Lys	Glu	
		915					920						925			
GAG	GTC	GCT	ACC	ACT	TTA	ATA	GAA	ACT	GTG	GAA	CAG	GCA	GAA	GAA	AAG	2832
Glu	Val	Ala	Thr	Thr	Leu	Ile	Glu	Thr	Val	Glu	Gln	Ala	Glu	Glu	Lys	
	930					935					940					
AGC	GCA	AAT	ACA	ATT	ACG	GAA	ATA	TTT	GAA	AAT	TTA	GAA	GAA	AAT	GCA	2880
Ser	Ala	Asn	Thr	Ile	Thr	Glu	Ile	Phe	Glu	Asn	Leu	Glu	Glu	Asn	Ala	
	945				950				955						960	

FIGURE 2/E

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GTA GAA AGT AAT GAA AAT GTT GCA GAG AAT TTA GAG AAA TTA AAC GAA Val Glu Ser Asn Glu Asn Val Ala Glu Asn Leu Glu Lys Leu Asn Glu 965 970 975	2928
ACT GTA TTT AAT ACT GTA TTA GAT AAA GTA GAG GAA ACA GTA GAA ATT Thr Val Phe Asn Thr Val Leu Asp Lys Val Glu Glu Thr Val Glu Ile 980 985 990	2976
ACC GGA GAA AGT TTA GAA AAC AAT GAA ATG CAT AAA GCA TTT TTT AGT Ser Gly Glu Ser Leu Glu Asn Asn Glu Met Asp Lys Ala Phe Phe Ser 995 1000 1005	3024
GAA ATA TTT GAT AAT GTA AAA GGA ATA CAA GAA AAT TTA TTA ACA GGT Glu Ile Phe Asp Asn Val Lys Gly Ile Gln Glu Asn Leu Leu Thr Gly 1010 1015 1020	3072
ATG TTT CGA AGT ATA GAA ACC AGT ATA GTA ATC CAA TCA GAA GAA AAG Met Phe Arg Ser Ile Glu Thr Ser Ile Val Ile Gln Ser Glu Glu Lys 1025 1030 1035 1040	3120
GTT GAT TTG AAT GAA AAT GTG GTT AGT TCG ATT TTA GAT AAT ATA GAA Val Asp Leu Asn Glu Asn Val Val Ser Ile Leu Asp Asn Ile Glu 1045 1050 1055	3168
AAT ATG AAA GAA GGT TTA TTA AAT AAA TTA GAA AAT ATT TCA AGT ACT Asn Met Lys Glu Gly Leu Leu Asn Lys Leu Glu Asn Ile Ser Ser Thr 1060 1065 1070	3216
GAA GGT GTT CAA GAA ACT GTA ACT GAA CAT GTA GAA CAA AAT GTA TAT Glu Gly Val Gln Glu Thr Val Thr Glu His Val Glu Gln Asn Val Tyr 1075 1080 1085	3264
GTG GAT GTT GAT GTT GCT GCT ATG AAA GAT CAA TTT TTA GCA ATA TTA Val Asp Val Asp Val Pro Ala Met Lys Asp Gln Phe Leu Gly Ile Leu 1090 1095 1100	3312
AAT GAG GCA GGA GCG TTG AAA GAA ATG TTT TTT AAT TTG GAA GAT GTA Asn Glu Ala Gly Gly Leu Lys Glu Met Phe Phe Asn Leu Glu Asp Val 1105 1110 1115 1120	3360
TTT AAA AGT GAA AGT GAT GTA ATT ACT GTA GAA GAA ATT AAG CAT GAA Phe Lys Ser Glu Ser Asp Val Ile Thr Val Glu Glu Ile Lys Asp Glu 1125 1130 1135	3408
GCG GTT CAA AAA GAG GTA GAA AAA GAA ACT GTT AGT ATT ATT GAA GAA Pro Val Gln Lys Glu Val Glu Lys Glu Thr Val Ser Ile Ile Glu Glu 1140 1145 1150	3456
ATG GAA GAA AAT ATT GTA GAT GTA TTA GAG GAA GAA AAA GAA GAT TTA Met Glu Glu Asn Ile Val Asp Val Leu Glu Glu Glu Lys Glu Asp Leu 1155 1160 1165	3504

FIGURE 2/F

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ACA GAC AAG ATG ATA GAT CCA GTA GAA GAA TCC ATA GAA ATA TCT TCA Thr Asp Lys Met Ile Asp Ala Val Glu Glu Ser Ile Glu Ile Ser Ser 1170 1175 1180	3552
GAT TCT AAA GAA GAA ACT GAA TCT ATT AAA GAT AAA GAA AAA GAT GTT Asp Ser Lys Glu Glu Thr Glu Ser Ile Lys Asp Lys Glu Lys Asp Val 1185 1190 1195 1200	3600
TCA GTA GTT GTT GAA GAA GTT CAA GAC AAT GAT ATC GAT GAA AGT GTT Ser Leu Val Val Glu Glu Val Gln Asp Asn Asp Met Asp Glu Ser Val 1205 1210 1215	3648
GAG AAA GTT TTA GAA TTG AAA AAT ATG GAA GAG GAG TTA ATC AAG GAT Glu Lys Val Leu Glu Leu Lys Asn Met Glu Glu Glu Leu Met Lys Asp 1220 1225 1230	3696
GCT GTT GAA ATA AAT GAC ATT ACT AOC AAA CTT ATT GAA GAA ACT CAA Ala Val Glu Ile Asn Asp Ile Thr Ser Lys Leu Ile Glu Glu Thr Gln 1235 1240 1245	3744
GAG TTA AAT GAA GTA GAA CCA GAT TTA ATA AAA GAT ATC GAA AAA TTA Glu Leu Asn Glu Val Glu Ala Asp Leu Ile Lys Asp Met Glu Lys Leu 1250 1255 1260	3792
AAA GAA TTA GAA AAA CCA TTA TCA GAA GAT TCT AAA GAA ATA ATA GAT Lys Glu Leu Glu Lys Ala Leu Ser Glu Asp Ser Lys Glu Ile Ile Asp 1265 1270 1275 1280	3840
GCA AAA GAT GAT ACA TTA CAA AAA GTT ATT GAA CAG GAA CAT GAT ATA Ala Lys Asp Asp Thr Leu Glu Lys Val Ile Glu Glu Glu His Asp Ile 1285 1290 1295	3888
ACG ACG ACG TTG GAT GAA GTT GTA GAA TTA AAA GAT GTC GAA GAA GAC Thr Thr Thr Leu Asp Glu Val Val Glu Leu Lys Asp Val Glu Glu Asp 1300 1305 1310	3936
AAG ATC GAA AAA GTA TCT GAT TTA AAA GAT CTT GAA GAA GAT ATA TTA Lys Ile Glu Lys Val Ser Asp Leu Lys Asp Leu Glu Glu Asp Ile Leu 1315 1320 1325	3984
AAA GAA GTA AAA GAA ATC AAA GAA CTT GAA AGT GAA ATT TTA GAA GAT Lys Glu Val Lys Glu Ile Lys Glu Leu Glu Ser Glu Ile Leu Glu Asp 1330 1335 1340	4032
TAT AAA GAA TTA AAA ACT ATT GAA ACA GAT ATT TTA GAA GAG AAA AAA Tyr Lys Glu Leu Lys Thr Ile Glu Thr Asp Ile Leu Glu Glu Lys Lys 1345 1350 1355 1360	4080
GAA ATA GAA AAA GAT CAT TTT GAA AAA TTC GAA GAA GAA GCT GAA GAA Glu Ile Glu Lys Asp His Phe Glu Lys Phe Glu Glu Glu Ala Glu Glu 1365 1370 1375	4128

FIGURE 2/G

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ATA AAA GAT CTT GAA GCA GAT ATA TTA AAA GAA GTA TCT TCA TTA GAA Ile Lys Asp Leu Glu Ala Asp Ile Leu Lys Glu Val Ser Ser Leu Glu 1380 1385 1390	4176
GTT GAA GAA GAA AAA AAA TTA GAA GAA GTA CAC GAA TTA AAA GAA GAG Val Glu Glu Glu Lys Lys Leu Glu Glu Val His Glu Leu Lys Glu Glu 1395 1400 1405	4224
GTA GAA CAT ATA ATA AGT GGT GAT GCG CAT ATA AAA GGT TTG GAA GAA Val Glu His Ile Ile Ser Gly Asp Ala His Ile Lys Gly Leu Glu Glu 1410 1415 1420	4272
GAT GAT TTA GAA GAA GTA GAT GAT TTA AAA GCA AGT ATA TTA GAC ATG Asp Asp Leu Glu Glu Val Asp Asp Leu Lys Gly Ser Ile Leu Asp Met 1425 1430 1435 1440	4320
TTA AAG GGA GAT ATG GAA TTA GGG GAT ATG GAT AAG GAA AGT TTA GAA Leu Lys Gly Asp Met Glu Leu Gly Asp Met Asp Lys Glu Ser Leu Glu 1445 1450 1455	4368
GAT GTA ACA ACA AAA CTT GGA GAA AGA GTT GAA TCC TTA AAA GAT GTT Asp Val Thr Thr Lys Leu Gly Glu Arg Val Glu Ser Leu Lys Asp Val 1460 1465 1470	4416
TTA TCT AGT GCA TTA GGC ATG GAT GAA GAA CAA ATG AAA ACA AGA AAA Leu Ser Ser Ala Leu Gly Met Asp Glu Glu Gln Met Lys Thr Arg Lys 1475 1480 1485	4464
AAA GCT GAA AGA CCT AAG TTG GAA GAA GTA TTA TTA AAA GAA GAG GTT Lys Ala Gln Arg Pro Lys Leu Glu Glu Val Leu Leu Lys Glu Glu Val 1490 1495 1500	4512
AAA GAA GAA CCA AAG AAA AAA ATA ACA AAA AAG AAA GTA AGC TTT CAT Lys Glu Glu Pro Lys Lys Lys Ile Thr Lys Lys Lys Val Arg Phe Asp 1505 1510 1515 1520	4560
ATT AAG GAT AAG GAA CCA AAA GAT GAA ATA GTA GAA GTT GAA ATG AAA Ile Lys Asp Lys Glu Pro Lys Asp Glu Ile Val Glu Val Glu Met Lys 1525 1530 1535	4608
GAT GAA GAT ATA GAA GAA GAT GTA GAA GAA CAT ATA GAA GAA GAT ATA Asp Glu Asp Ile Glu Glu Asp Val Glu Glu Asp Ile Glu Glu Asp Ile 1540 1545 1550	4656
GAA GAA GAT AAA GTT GAA GAT ATA GAT GAA GAT ATA GAT GAA GAT ATA Glu Glu Asp Lys Val Glu Asp Ile Asp Glu Asp Ile Asp Glu Asp Ile 1555 1560 1565	4704
GGT GAA GAC AAA GAT GAA GTT ATA GAT TTA ATA GTC CAA AAA GAG AAA Gly Glu Asp Lys Asp Glu Val Ile Asp Leu Ile Val Gln Lys Glu Lys 1570 1575 1580	4752

FIGURE 2/H

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CCC ATT GAA AAG GTT AAA GCG AAA AAG AAA AAA TTA GAA AAA AAA GTT Arg Ile Glu Lys Val Lys Ala Lys Lys Lys Lys Leu Glu Lys Lys Val 1585 1590 1595 1600	4800
GAA GAA GGT GTT AGT GGT CTT AAA AAA CAC GTA GAC GAA GTA ATG AAA Glu Glu Gly Val Ser Gly Leu Lys Lys His Val Asp Glu Val Met Lys 1605 1610 1615	4848
TAT GTT CAA AAA ATT GAT AAA GAA GTT GAT AAA GAA GTA TCT AAA GGT Tyr Val Gln Lys Ile Asp Lys Glu Val Asp Lys Glu Val Ser Lys Ala 1620 1625 1630	4896
TTA GAA TCA AAA AAT GAT GTT ACT AAT GTT TTA AAA CAA AAT CAA GAT Leu Glu Ser Lys Asn Asp Val Thr Asn Val Leu Lys Gln Asn Gln Asp 1635 1640 1645	4944
TTT TTT AGT AAA GTT AAA AAC TTC GTA AAA AAA TAT AAA GTA TTT GGT Phe Phe Ser Lys Val Lys Asn Phe Val Lys Lys Tyr Lys Val Phe Ala 1650 1655 1660	4992
GCA CCA TTC ATA TGT GCG GTT GCA CCA TTT GCA TCA TAT GTA GTT GCG Ala Pro Phe Ile Ser Ala Val Ala Ala Phe Ala Ser Tyr Val Val Gly 1665 1670 1675 1680	5040
TTC TTT ACA TTT TCT TTA TTT TCA TCA TGT GTA ACA ATA GCT TCT TCA Phe Phe Thr Phe Ser Leu Phe Ser Ser Cys Val Thr Ile Ala Ser Ser 1685 1690 1695	5088
ACT TAC TTA TTA TCA AAA GTT GAC AAA ACT ATA AAT AAA AAT AAC CAG Thr Tyr Leu Leu Ser Lys Val Asp Lys Thr Ile Asn Lys Asn Lys Glu 1700 1705 1710	5136
ACA CCG TTT TAT TCA TTT GTA TTT GAT ATC TTT AAG AAT TTA AAA CAT Arg Pro Phe Tyr Ser Phe Val Phe Asp Ile Phe Lys Asn Leu Lys His 1715 1720 1725	5184
TAT TTA CAA CAA ATC AAA GAA AAA TTT AGT AAA GAA AAA AAT AAT AAT Tyr Leu Gln Gln Met Lys Glu Lys Phe Ser Lys Glu Lys Asn Asn Asn 1730 1735 1740	5232
GTA ATA GAA GTA ACA AAC AAA GCT CAG AAA AAA GGT AAT GTA CAG GTA Val Ile Glu Val Thr Asn Lys Ala Glu Lys Lys Gly Asn Val Gln Val 1745 1750 1755 1760	5280
ACA AAT AAA ACC GAG AAA ACA ACT AAA GTT GAT AAA AAT AAT AAA GTA Thr Asn Lys Thr Glu Lys Thr Thr Lys Val Asp Lys Asn Asn Lys Val 1765 1770 1775	5328
CGG AAA AAA AGA AGA ACG CAA AAA TCA AAA TAA Pro Lys Lys Arg Arg Thr Gln Lys Ser Lys * 1780 1785	5361

FIGURE 2/I

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## (2) INFORMATION FOR SEQ ID NO: 3:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1891 base pairs
- (B) TYPE: nucleotide
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: cDNA

## (ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 2..1891

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

T ACA TTA ACT GAA ACT GTA CAT GAT AAT AAA AAT TTA GAA GAA CCC	46
Thr Leu Thr Glu Ser Val Asp Asp Asn Lys Asn Leu Glu Glu Ala	
1 5 10 15	
GAA GAT ATA AAG GAA AAT ATC TTA TTA AGT AAT ATA GAA GAA GCA AAA	94
Glu Asp Ile Lys Glu Asn Ile Leu Leu Ser Asn Ile Glu Glu Pro Lys	
20 25 30	
GAA AAT ATT ATT GAC AAT TTA TTA AAT AAT ATT GCA CAA AAT TCA GAA	142
Glu Asn Ile Ile Asp Asn Leu Leu Asn Asn Ile Gly Gln Asn Ser Glu	
35 40 45	
AAA CAA GAA AGT GTA TCA GAA AAT GTA CAA GTC AGT GAT GAA GTT TTT	190
Lys Gln Glu Ser Val Ser Glu Asn Val Gln Val Ser Asp Glu Leu Phe	
50 55 60	
AAT GAA TTA TTA AAT AGT GTA GAT GTT AAT GCA GAA GTA AAA GAA AAT	238
Asn Glu Leu Leu Asn Ser Val Asp Val Asn Gly Glu Val Lys Glu Asn	
65 70 75	
ATT TTG GAC GAA AGT CAA GTT AAT CAC GAT ATT TTT AAT AGT TTA GTA	286
Ile Leu Glu Glu Ser Gln Val Asn Asp Asp Ile Phe Asn Ser Leu Val	
80 85 90 95	
AAA AGT GTT CAA CAA CAA CAA CAA CAC AAT GTT CAA CAA AAA GTT CAA	334
Lys Ser Val Gln Gln Glu Gln Gln His Asn Val Glu Glu Lys Val Glu	
100 105 110	
GAA AGT GTA GAA GAA AAT CAC GAA GAA AGT GTA GAA GAA AAT GTA GAA	382
Glu Ser Val Glu Glu Asn Asp Glu Glu Ser Val Glu Glu Asn Val Glu	
115 120 125	
GAA AAT GTA GAA CAA AAT CAC GAC GCA AGT GTA GCC TCA AGT GTT GAA	430
Glu Asn Val Glu Glu Asn Asp Asp Gly Ser Val Ala Ser Ser Val Glu	
130 135 140	

FIGURE 3/A

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GAA AGT ATA GCT TGA AGT GTT GAT GAA AGT ATA GAT TCA AGT ATT GAA Glu Ser Ile Ala Ser Ser Val Asp Glu Ser Ile Asp Ser Ser Ile Glu 145 150 155	478
GAA AAT GTA GCT CCA ACT GTT GAA GAA ATC GTA GCT CCA ACT GTT GAA Glu Asn Val Ala Pro Thr Val Glu Glu Ile Val Ala Pro Thr Val Glu 160 165 170 175	526
GAA ATT GTA GCT CCA AGT GTT GTA GAA AGT GTC GCT CCA AGT GTT GAA Glu Ile Val Ala Pro Ser Val Val Glu Ser Val Ala Pro Ser Val Glu 180 185 190	574
GAA AGT GTA GCT CCA AGT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA Glu Ser Val Ala Pro Ser Val Glu Glu Ser Val Ala Glu Asn Val Glu 195 200 205	622
GAA AGT GTA GCT GAA AAT GTT GAA GAA ATC GTA GCT CCA AGT GTT GAA Glu Ser Val Ala Glu Asn Val Glu Glu Ile Val Ala Pro Ser Val Glu 210 215 220	670
GAA AGT GTA GCT GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu 225 230 235	718
GAA AGT GTA GCT GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu 240 245 250 255	766
GAA AGT GTA GCT GAA AAT GTT GAA GAA ATC GTA GCT CCA ACT GTT GAA Glu Ser Val Ala Glu Asn Val Glu Glu Ile Val Ala Pro Thr Val Glu 260 265 270	814
GAA AGT GTA GCT CCA ACT GTT GAA GAA ATT GTA GCT CCA ACT GTT GAA Glu Ser Val Ala Pro Thr Val Glu Glu Ile Val Ala Pro Thr Val Glu 275 280 285	862
GAA AGT GTA GCT CCA ACT GTT GAA GAA ATT GTA GTT CCA AGT GTT GAA Glu Ser Val Ala Pro Thr Val Glu Glu Ile Val Val Pro Ser Val Glu 290 295 300	910
GAA AGT GTA GCT CCA AGT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA Glu Ser Val Ala Pro Ser Val Glu Glu Ser Val Ala Glu Asn Val Glu 305 310 315	958
GAA AGT GTA GCT GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu 320 325 330 335	1006
GAA AGT GTA GCT GAA AAT GTT GAA GAA AGT GTA GCT GAA AAT GTT GAA Glu Ser Val Ala Glu Asn Val Glu Glu Ser Val Ala Glu Asn Val Glu 340 345 350	1054

FIGURE 3/B



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GAA ATC GTA GCT CCA AGT GTT GAA GAA ATC GTA GCT CCA ACT GTT GAA	1102
Glu Ile Val Ala Pro Ser Val Glu Glu Ile Val Ala Pro Thr Val Glu	
355 360 365	
GAA AGT GTT GCT GAA AAC GTT GCA ACA AAT TTA TCA GAC AAT GTT TTA	1150
Glu Ser Val Ala Glu Asn Val Ala Thr Asn Leu Ser Asp Asn Leu Leu	
370 375 380	
AGT AAT TTA TTA GGT GGT ATC GAA ACT GAG GAA ATA AAG GAC AGT ATA	1198
Ser Asn Leu Leu Gly Gly Ile Glu Thr Glu Glu Ile Lys Asp Ser Ile	
385 390 395	
TTA AAT GAG ATA GAA GAA GTA AAA GAA AAT GTA GTC ACC ACA ATA CTA	1246
Leu Asn Glu Ile Glu Glu Val Lys Glu Asn Val Val Thr Thr Ile Leu	
400 405 410 415	
GAA AAA GTA GAA GAA ACT ACA GGT GAA AGT CTA ACT ACT TTT AGT AAT	1294
Glu Lys Val Glu Glu Thr Thr Ala Glu Ser Val Thr Thr Phe Ser Asn	
420 425 430	
ATA TTA GAG GAG ATA CAA GAA AAT ACT ATT ACT AAT GAT ACT ATA GAG	1342
Ile Leu Glu Glu Ile Gln Glu Asn Thr Ile Thr Asn Asp Thr Ile Glu	
435 440 445	
GAA AAA TTA GAA GAA CTC CAC CAA AAT GTA TTA ACT GCC GGT TTA GAA	1390
Glu Lys Leu Glu Glu Leu His Glu Asn Val Leu Ser Ala Ala Leu Glu	
450 455 460	
AAT ACC CAA AGT GAA GAG GAA AAG AAA GAA GTA ATA GAT GTA ATT GAA	1438
Asn Thr Gln Ser Glu Glu Glu Lys Lys Glu Val Ile Asp Val Ile Glu	
465 470 475	
GAA GTA AAA GAA GAG GTC GGT ACC ACT TTA ATA GAA ACT GTC GAA CAG	1486
Glu Val Lys Glu Glu Val Ala Thr Thr Leu Ile Glu Thr Val Glu Gln	
480 485 490 495	
GCA GAA GAA GAG ACC CAA AGT ACA ATT ACC GAA ATA TTT GAA AAT TTA	1534
Ala Glu Glu Glu Ser Glu Ser Thr Ile Thr Glu Ile Phe Glu Asn Leu	
500 505 510	
GAA GAA AAT GCA GTA GAA AGT AAT GAA AAA GTT GCA GAG AAT TTA GAG	1582
Glu Glu Asn Ala Val Glu Ser Asn Glu Lys Val Ala Glu Asn Leu Glu	
515 520 525	
AAA TTA AAC GAA ACT GTA TTT AAT ACT GTA TTA GAT AAA GTA GAG GAA	1630
Lys Leu Asn Glu Thr Val Phe Asn Thr Val Leu Asp Lys Val Glu Glu	
530 535 540	
ACA GTA GAA ATT ACC GCA GAA AGT TTA GAA AAC AAT GAA ATC GAT AAA	1678
Thr Val Glu Ile Ser Gly Glu Ser Leu Glu Asn Asn Glu Met Asp Lys	
545 550 555	

FIGURE 3/C

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GCA TTT TTT AGT GAA ATA TTT GAT AAT GTA AAA CGA ATA CAA GAA AAT	1726
Ala Phe Phe Ser Glu Ile Phe Asp Asn Val Lys Gly Ile Gln Glu Asn	
560 565 570 575	
TTA TTA ACA GGT ATG TTT CGA AGT ATA GAA ACC AGT ATA GTA ATC CAA	1774
Leu Leu Thr Gly Met Phe Arg Ser Ile Glu Thr Ser Ile Val Ile Gln	
580 585 590	
TCA GAA GAA AAG GTT GAT TTC AAT GAA AAT GTG GTT AGT TCG ATT TTA	1822
Ser Glu Glu Lys Val Asp Leu Asn Glu Asn Val Val Ser Ser Ile Leu	
595 600 605	
GAT AAT ATA GAA AAT ATC AAA GAA CGT TTA TTA AAT AAA TTA GAA AAT	1870
Asp Asn Ile Glu Asn Met Lys Glu Gly Leu Leu Asn Lys Leu Glu Asn	
610 615 620	
ATT TCA AGT ACT GAA GGC GAA	1891
Ile Ser Ser Thr Glu Gly Glu	
625 630	



## FIGURE 4

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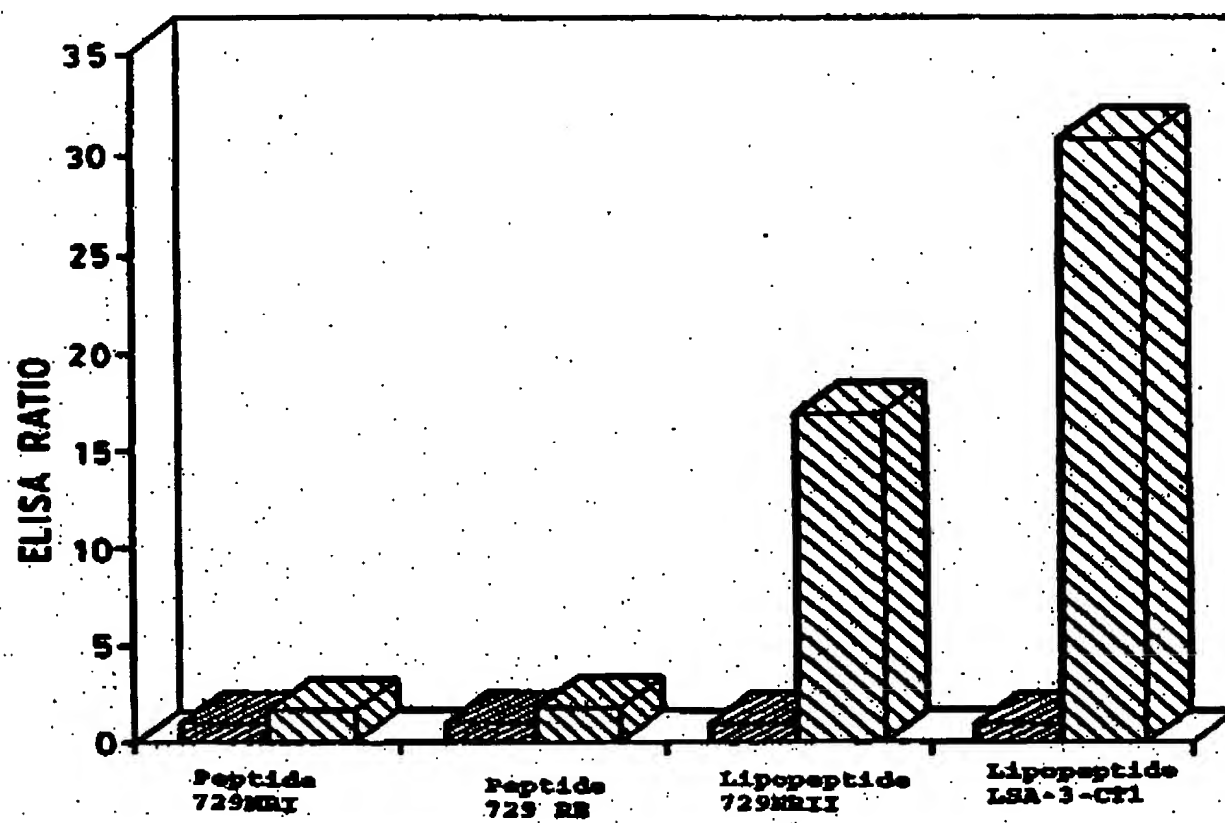


FIGURE 5

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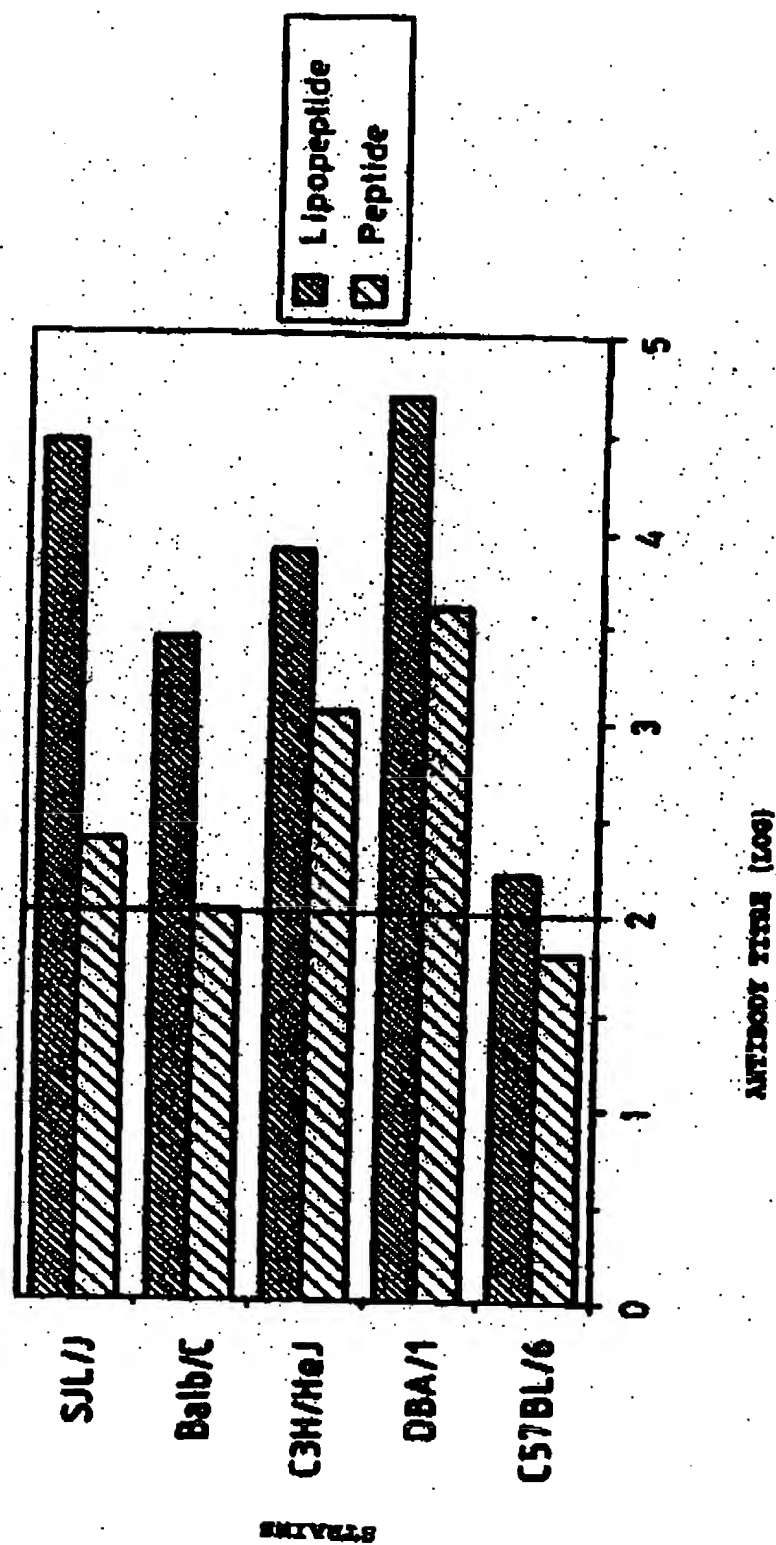


FIGURE 6

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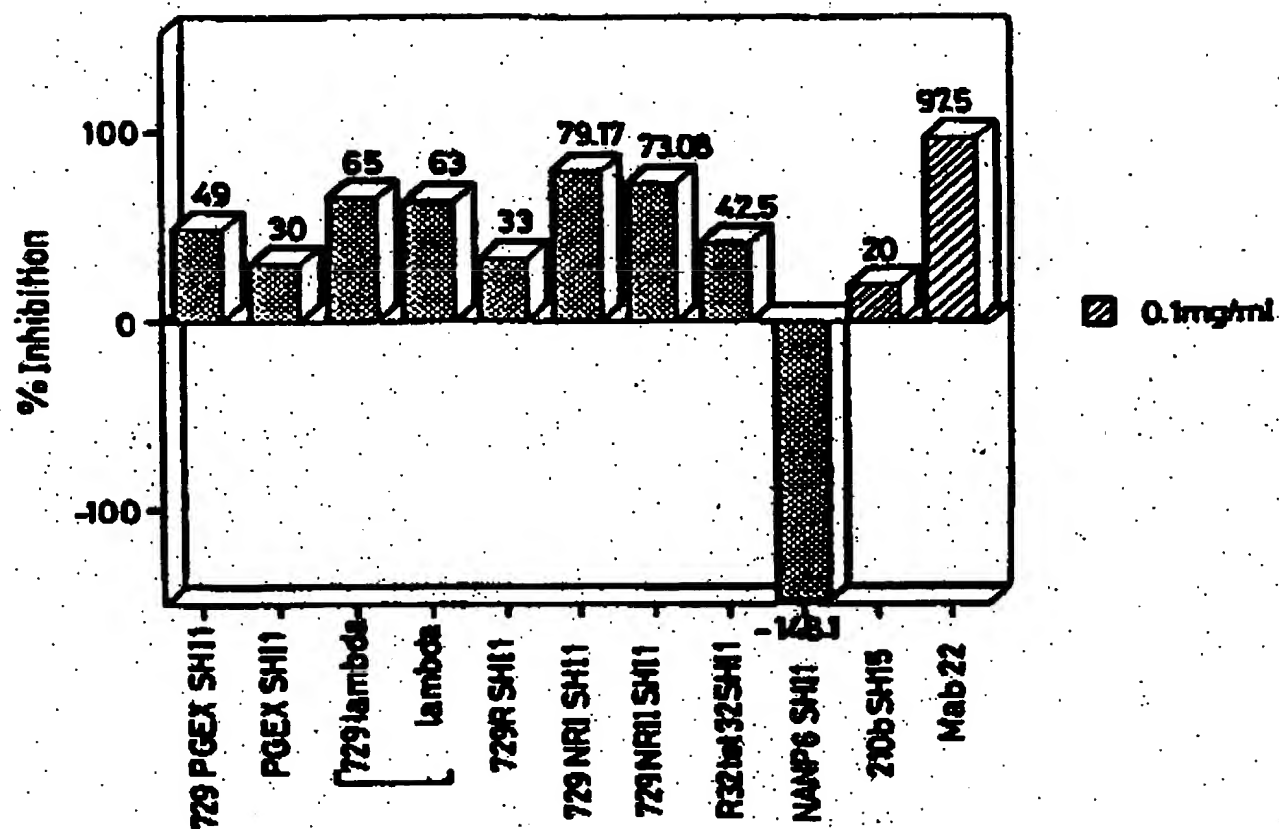


FIGURE 7

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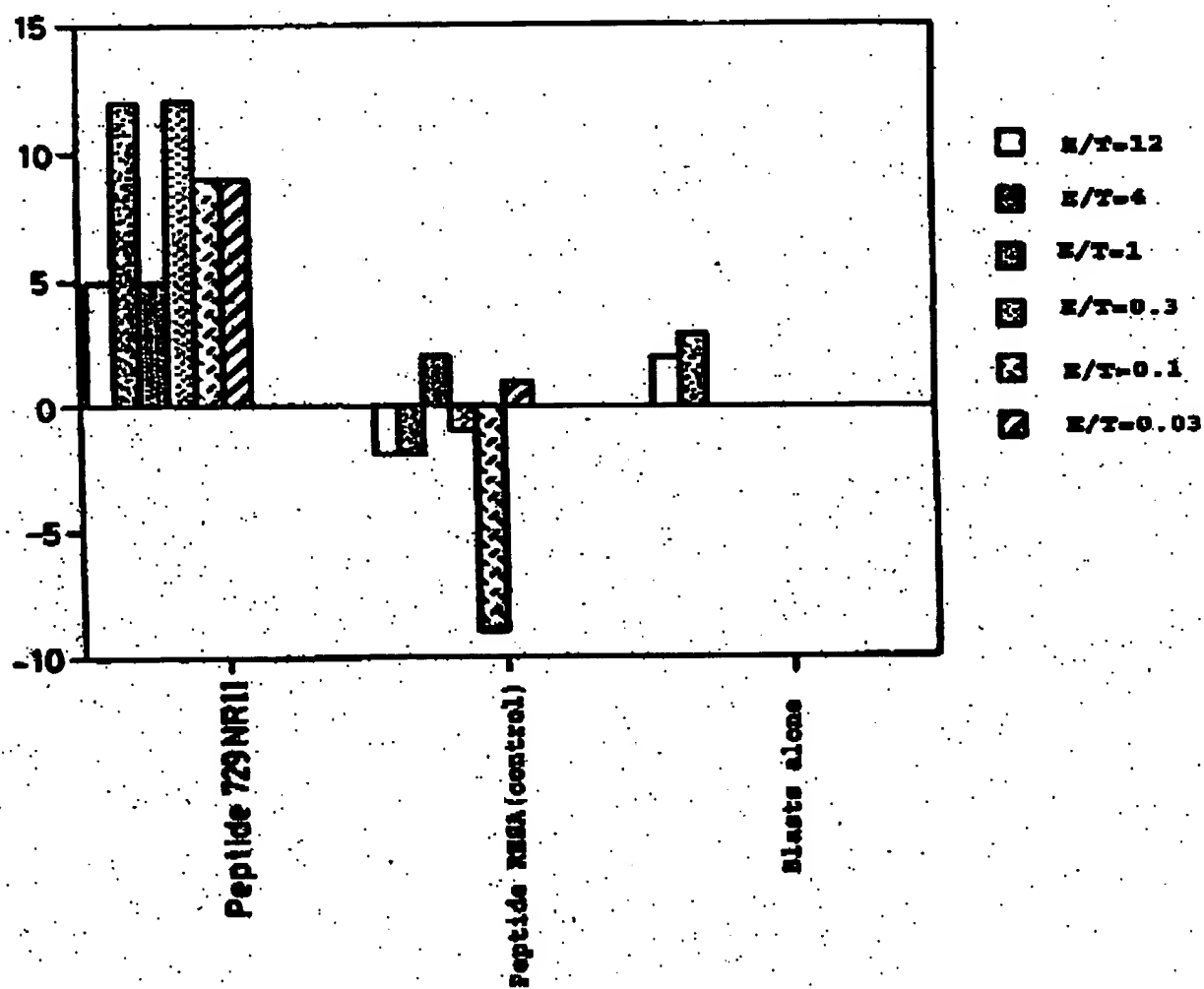


FIGURE 8

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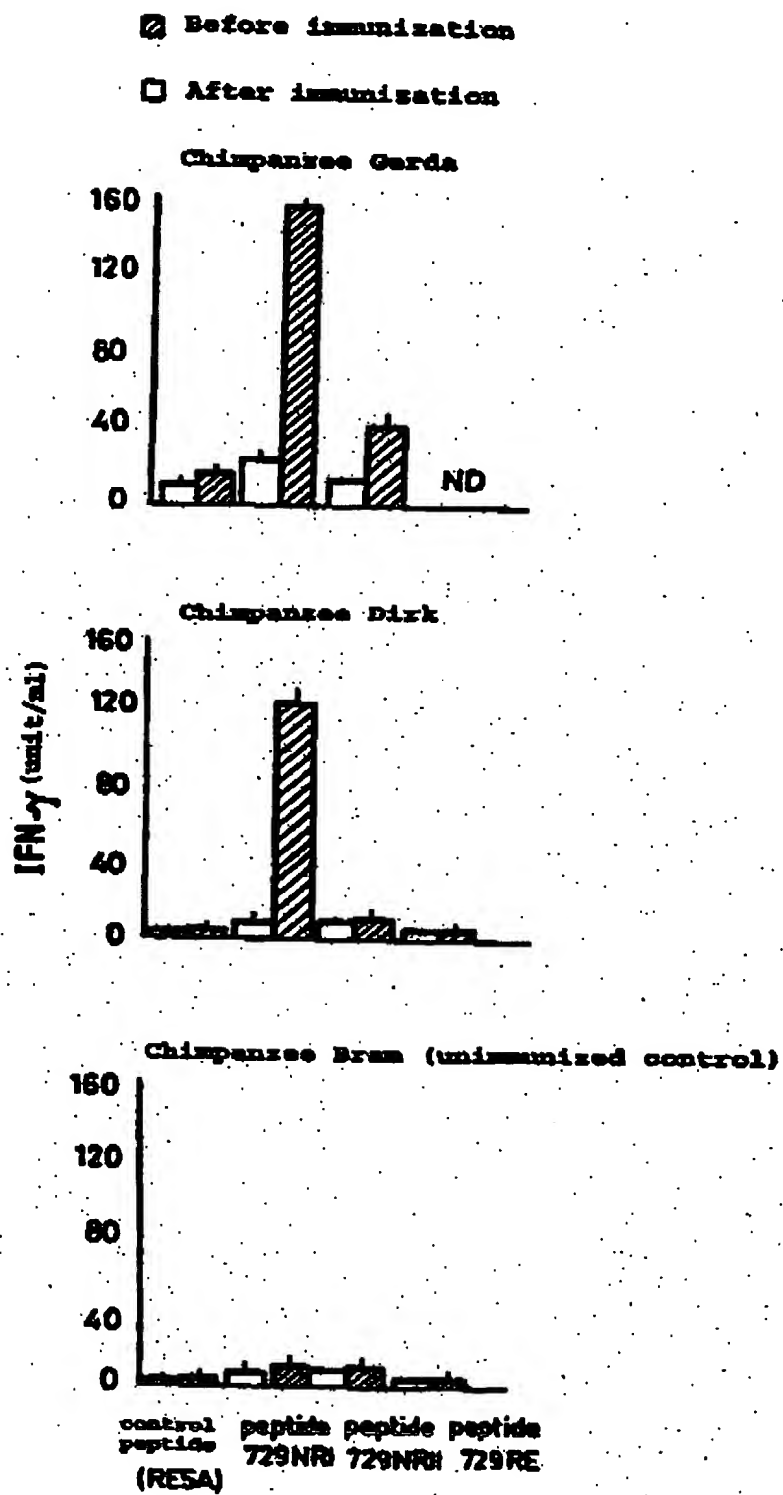


FIGURE 9



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